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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,035	09/09/2003	Michael J. Wodjenski	ATMI-649	2055
25559	7590	12/10/2004	EXAMINER	
ATMI, INC. 7 COMMERCE DRIVE DANBURY, CT 06810			HUYNH, KHOA D	
			ART UNIT	PAPER NUMBER
			3751	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/658,035	Applicant(s) WODJENSKI, MICHAEL J.	
	Examiner Khoa D. Huynh	Art Unit 3751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the timer as claimed in claims 8, 12, 13, and 42, the pumper cabinet as recited in claims 23 and 52 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification, especially in the Detailed Description of the ... preferred embodiment, is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the rate of change of a characteristic of gas dispensed as recited in claims 6 and 35, means for dynamically setting a time as recited in claims 9 and 38, and pumper cabinet as recited in claims 23 and 52.

Claim Objections

3. Claims 28, 29 and 58 are objected to because of the following informalities: the recitations "a first vessel" and "a second vessel" should read --said first vessel-- and --said second vessel--. Appropriate correction is strongly suggested.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 27 and 56 rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

6. Claims 23-27 and 52-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 23 and 52, each of the afore-mentioned claims calls for "a pumper cabinet" in addition to the "gas cabinet" (see claim 21). However, the recitation

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"a pumper cabinet" does not have any clear support the instant specification and, therefore make it very difficult to ascertain the scope of the invention as claimed.

Claims 24-27 and 53-56 depend on claims 23 and 52, respectively, and are likewise indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 13, 4, 6, 9-11, 14-19, 21-30, 32, 33, 35, 38-40, 43-48, and 50-58, as presently and best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dietz (6302139).

Regarding claim 1, the Dietz reference discloses an auto-switching gas delivery system. The system is used to supply and dispense gas to a gas consuming process unit. The system includes an array of at least two gas storage and dispensing vessels (14,16) arranged for sequential on-stream dispensing operation involving switchover from a first vessel (14) to a second vessel (col. 1, lines 8-14). The system also includes a pump (at 40) coupled in gas flow communication with the array (Fig. 1), an auto-switchover system (cols. 8 and 9). The auto-switching system is constructed and arranged to sense an endpoint limit on the on-stream one of the vessel and to initiate auto-switching from the on-stream one of the vessels to another of the vessels (col. 8, lines 34-

68 & col. 9, lines 1-25) for subsequence dispensing of gas from the another of the vessels. The Dietz reference (col. 8, lines 34-41 & col. 9, lines 1-15) also discloses that between the sensing of the endpoint limit and initiating auto-switching, the system the pump is inactivated and the flow of gas is terminated via the closing of the valves (AV13,AV20). Furthermore, after the auto-switching is initiated (sensed by the pressure transducer of the pressure controlled flow regulator device FR2), the pump is activated and the flow of gas is reinitiated (col. 9, lines 14-25).

Regarding claim 3, the endpoint limit sensed by the pressure transducer of the pressure controlled flow regulator device (FR2) as a limit pressure of the gas.

Regarding claim 4, the endpoint limit sensed by the pressure transducer of the pressure controlled flow regulator device (FR2) wherein the flow regulator is inherently used to limit flow rate of the gas.

Regarding claim 6 (as best understood), limit pressure of the gas or the limit flow rate of the gas or voltage reading (col. 9, lines 60-63) is capable of being construed as rate of change of a characteristic of gas.

Regarding claims 9-11, the Dietz reference also discloses that the system includes means for dynamically setting a time or (PID) controller for controlling the flow control devices (col. 7, lines 46-58).

Regarding claim 14, as discussed above, the auto-switching system is inherently constructed and arranged to terminated the flow of gas via the closing of the valves (AV13,AV20) prior to inactivated the pump.

Regarding claim 15, as discussed above, the auto-switching system is inherently constructed and arranged to reinitiate flow of gas via the opening of the valves (AV1,AV03,AV21) prior to reactivating the pump.

Regarding claims 16-18, the Dietz system is using the vessels disclosed by Tom et al. (US 5,518,528) which include all of the recitations recited by claims 16-18. The system disclosed by Applicant is also using the vessels disclosed by Tom et al. (US 5,518,528).

Regarding claim 19, the Dietz reference also discloses that the gas is a semiconductor manufacturing gas (col. 1, lines 1-24) for use in semiconductor fabrication plant.

Regarding claims 22 and 22, as schematically shown in Figure 1, the vessels are disposed in a gas cabinet (12), wherein the vessels are coupled in gas flow communication to a valved manifold in the cabinet.

Regarding claim 23, as best understood from the drawings, the pump is contained in a "pumper cabinet" that is separate from the gas cabinet which houses the vessels and the valved manifold (col. 7, lines 30-35).

Regarding claims 24-26, as best understood, the "pumper cabinet" further contains a surge tank (34) in pumped gas-receiving relationship to the pump. As schematically shown in Figure 1, the pump and the tank are coupled in gas flow communication with the valved manifold.

Regarding claim 27 (as best understood), the system, as schematically shown in Figure 1, is constructed and arranged to carry out the auto-switchover operational sequence from the first vessel to the second vessel.

Regarding claim 28, claim 28 recites limitations that are similar to claims 1, 14 and 15 that have been rejected as discussed above.

Regarding claim 29, the Dietz reference also discloses that the system is permitted to switch from the first vessel to the second vessel without the occurrence of pressure spikes (Abstract; col. 5, lines 8-13).

Regarding claims 30, 32, 33, 35, 38-40, 43, 44-48 and 50-58, the method as claimed would be inherent during the normal use and operation of the Dietz system.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2, 5, 7, 8, 12, 13, 31, 34, 36, 37, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz (as discussed above).

Regarding claim 2, the Dietz reference DIFFERS in that it does not specifically disclose that the endpoint limit is an endpoint limit weight of one of the vessels as claimed. It, however, would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Dietz

reference by employing the endpoint limit to be an endpoint limit weight of one of the vessels. Such modification would be considered a mere choice of the preferred endpoint limit on the basis of its intended use especially since a) Dietz also discloses that the endpoint limits may be pre-set by the programmable logic controller and b) applicant also admits, in the description of related art, page 4, that the endpoint limits may be determined by any other suitable manner.

Regarding claim 5, the Dietz reference DIFFERS in that it does not specifically disclose that the endpoint limit is an endpoint limit cumulative volume of gas dispensed as claimed. It, however, would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Dietz reference by employing the endpoint limit to be an endpoint limit cumulative volume of gas dispensed. Such modification would be considered a mere choice of the preferred endpoint limit on the basis of its intended use especially since a) Dietz also discloses that the endpoint limits may be pre-set by the programmable logic controller and b) applicant also admits, in the description of related art, page 4, that the endpoint limits may be determined by any other suitable manner.

Regarding claim 7, the Dietz reference DIFFERS in that it does not specifically disclose that the endpoint limit is an endpoint limit dispensing time of gas dispensed as claimed. It, however, would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Dietz reference by employing the endpoint limit to be an endpoint limit dispensing

time of gas dispensed. Such modification would be considered a mere choice of the preferred endpoint limit on the basis of its intended use especially since a) Dietz also discloses that the endpoint limits may be control by the cycle time control program and b) applicant also admits, in the description of related art, page 4, that the endpoint limits may be determined by any other suitable manner.

Regarding claims 8, 12 and 13, the Dietz reference DIFFERS in that it does not specifically include a timer as claimed. It, however, would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Dietz reference by employing a timer for controllably setting a time interval. Such modification would be considered a choice of preferred time controller on the basis of its intended use especially since Dietz also discloses that the system components, i.e. valves, pump, pressure transducer and so on may be control by the cycle time control program (col. 8, lines 1-6).

Regarding claims 31, 34, 36, 37, 41 and 42, the method as claimed would be inherent during the normal use and operation of the modified Dietz system.

11. Claims 20 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz (as discussed above) in view of Wang et al. (6101816).

Regarding claim 20, the Dietz reference DIFFERS in that the vessels do not specifically include interiorly disposed regulators as claimed. Attention, however, is directed to the Wang et al. reference which discloses fluid storage and dispensing vessels deployed in a gas cabinet in semiconductor manufacturing plants. The vessels include regulators interiorly disposed in the

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vessels. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Dietz reference by employing interiorly disposed regulators for the vessel, in view of the teaching of Wang et al., in order to protect the regulators against impact or environmental contamination.

Regarding claim 49, the method as claimed would be inherent during the normal use and operation of the modified Dietz system.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carpenter et al. was cited to show an auto-switching gas delivery system without the occurrence of pressure spikes. Park and Wilmer were cited to show a gas dispensing manifold for a gas supply device used in semiconductor manufacturing plants.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khoa D. Huynh whose telephone number is (571) 272-4888. The examiner can normally be reached on M-F (7:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khoa D. Huynh', with a horizontal line extending to the right.

Khoa D. Huynh
Patent Examiner
Art Unit 3751

HK
12/08/2004